

Are you PrEPared?

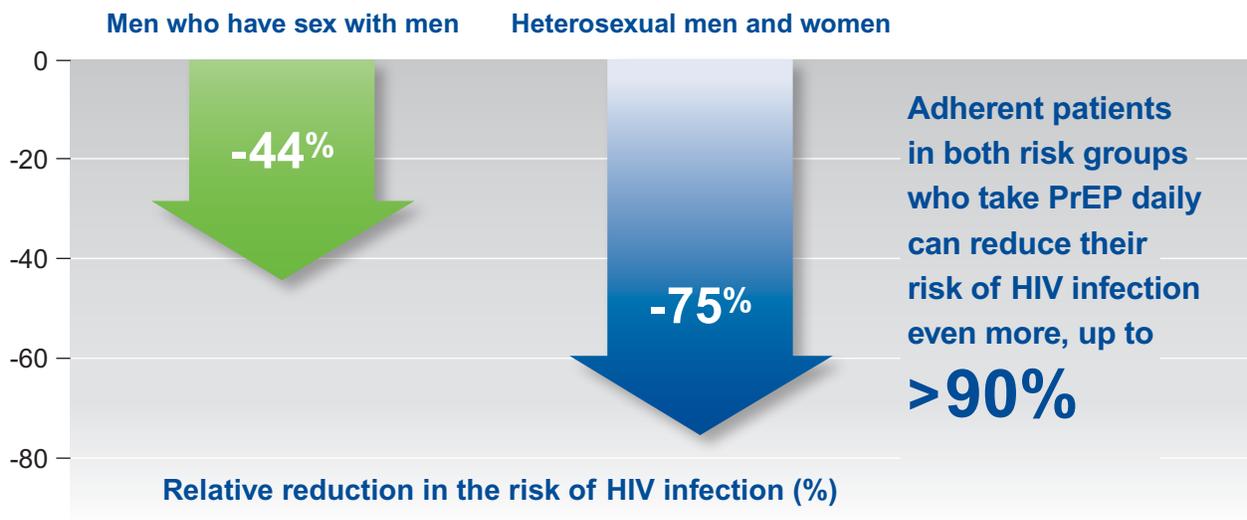
A powerful way to prevent HIV transmission



A once-daily pill can block infection in healthy people at risk for HIV

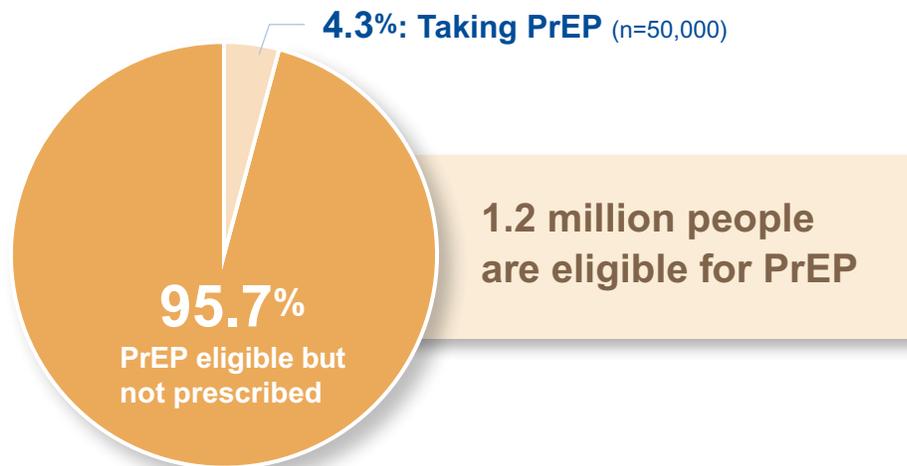
Pre-exposure prophylaxis (PrEP) with tenofovir 300 mg plus emtricitabine 200 mg reduces the risk of acquiring HIV.

FIGURE 1. Men who have sex with men (MSM) and heterosexual men and women who were randomized to PrEP reduced their risk of HIV.^{1,2}



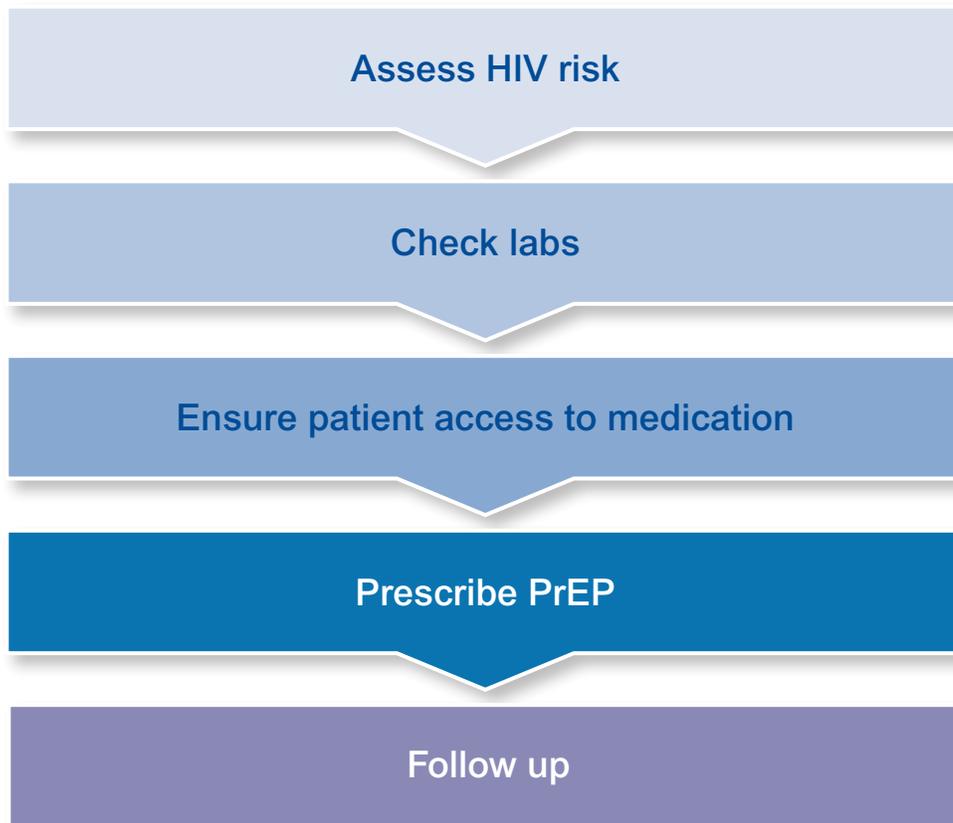
PrEP prescribing is increasing, but opportunities remain for patients at high HIV risk.

FIGURE 2. Despite a 4-fold increase in PrEP prescribing between 2012 and 2015, many more people could benefit from this regimen.^{3,4}



Prescribing PrEP is straightforward

FIGURE 3. Steps to initiate PrEP. Each is discussed further below.⁵



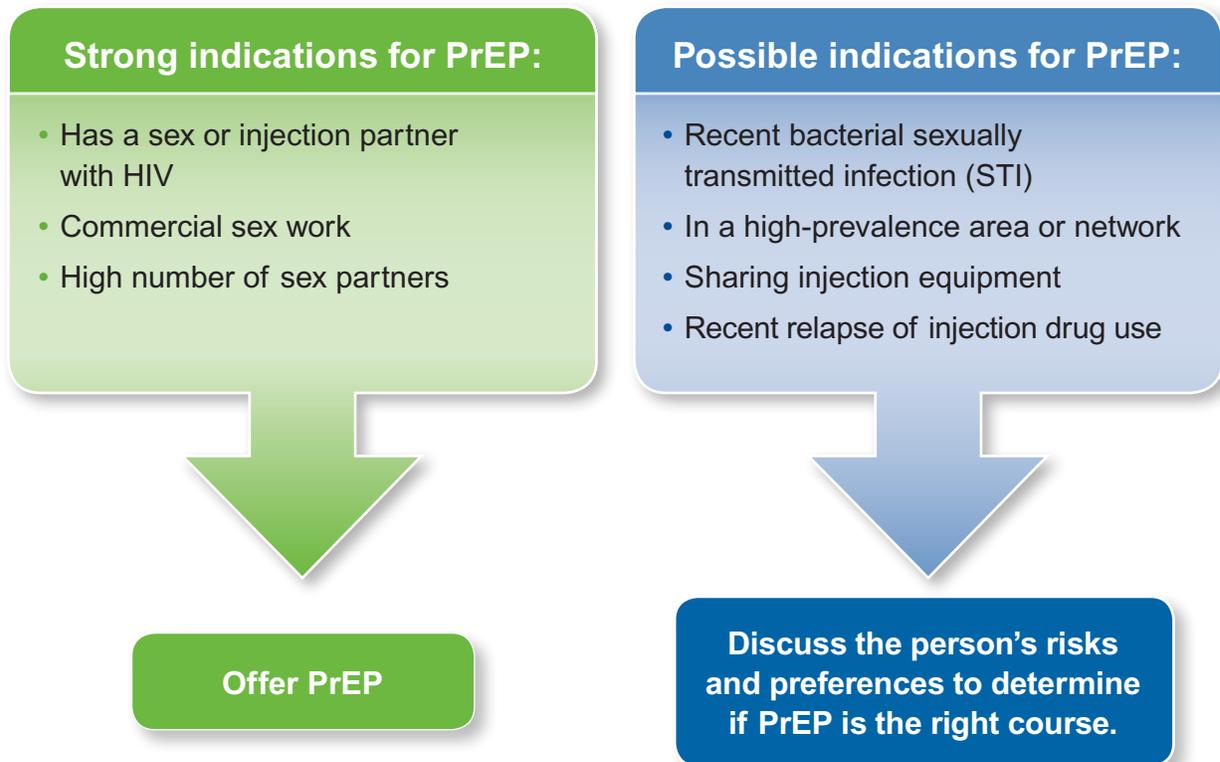
Reducing HIV risk in all patients:

-  Counsel patients on lowering the risk of HIV, regardless of whether they are at high risk.
-  Discuss barrier methods (such as condoms), and clean needle programs or addiction treatment for injection drug users.
-  Identify referral resources for these risk reduction services.

Assess HIV risk

Take a detailed social history and discuss future behaviors to identify which people are eligible for PrEP.

FIGURE 4. Risk factors that increase the risk of HIV infection⁶



When to use **PEP**, not PrEP

● **Post-exposure prophylaxis (PEP)** can be prescribed in people who present within 72 hours of a known or probable HIV exposure (e.g., unprotected sexual contact with an HIV positive person).

● **Discuss PrEP** with patients who complete PEP for non-occupational HIV exposure.

Check laboratory tests before starting PrEP

FIGURE 5. Complete the following laboratory assessments prior to prescribing PrEP.

 **HIV status:** Ensure that the patient does not have HIV infection or signs of acute HIV.

 **Renal function:** Renal function should be normal (creatinine clearance >60 mL/min) prior to starting PrEP.

 **Hepatitis B:**

- Screen for hepatitis B.
- Provide hepatitis B vaccine for patients who have not been immunized.
- If a patient has hepatitis B, make a plan for managing it prior to initiating PrEP.

 **Pregnancy status:** PrEP can be safe in women who are pregnant or trying to conceive, but determine pregnancy status and discuss risks and benefits.⁷

Ensure access to medication:

- Confirm that patients prescribed PrEP can get the drug and follow-up needed.
- The price of tenofovir 300 mg/emtricitabine 200 mg (Truvada) can be over \$1700 for a 30-day supply*; generics are expected in the coming year.
- If patients do not have coverage, they may qualify for programs to access medication and/or health care services.

* Price from Goodrx.com as of January 2017.

Prescribe PrEP and follow up

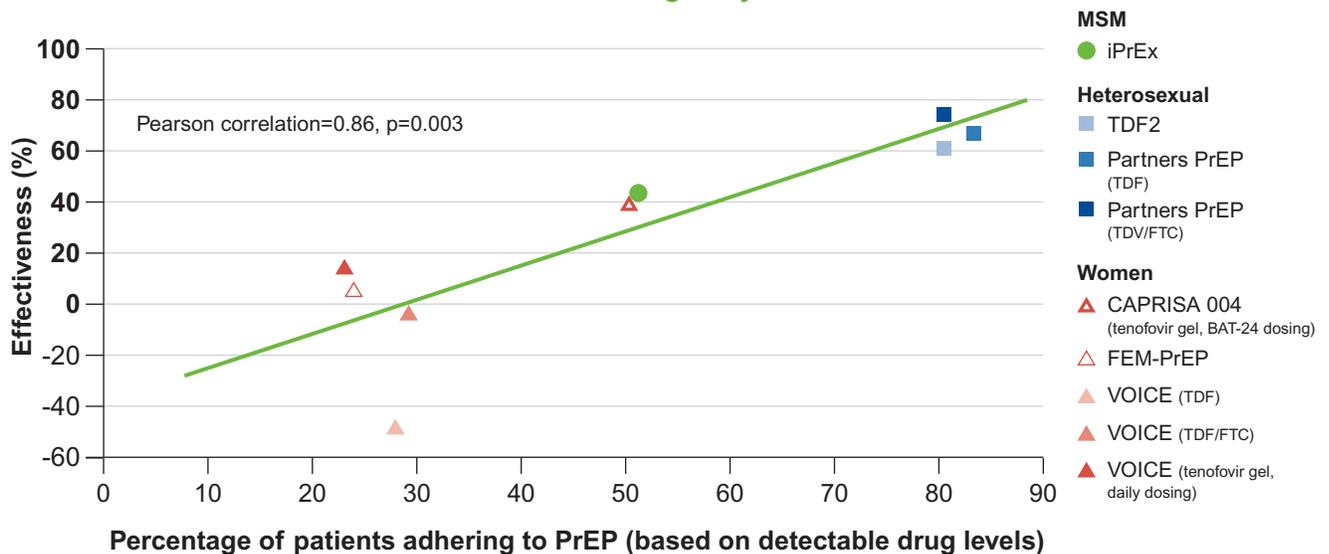
Discuss the risks of PrEP and focus on the benefits of adherence.

Tenofovir and emtricitabine have relatively few side effects:

- Dizziness and nausea occur in up to 20% of patients but diminish after the first month of treatment.⁸
- Renal function and bone mineral density both may decrease by about 3%, but this usually improves after stopping tenofovir and emtricitabine.^{9,10}

Taking PrEP every day matters.

FIGURE 6. PrEP is most effective when taken regularly.¹¹



What about drug resistance? Resistance hasn't occurred, but even an adherent person can be infected with an HIV strain resistant to PrEP.^{6,12}

Reassess eligibility for PrEP on an ongoing basis, especially if HIV risk changes. Follow-up is crucial.

3 EVERY 3 MONTHS:

- Test for HIV.
- Test for STIs, based on risk.

6 EVERY 6 MONTHS:

- Assess renal function.

Key messages

- Pre-exposure prophylaxis (PrEP) is highly effective for reducing the risk of HIV infection in people at high HIV risk.
- Discuss PrEP with anyone at high risk for HIV infection.
- Monitor patients for side effects, for acute HIV, and STIs every 3 months, and measure renal function every 6 months.
- Patient education should include information about the importance of adherence. Provide risk reduction services with PrEP either directly or by referral.

**Visit AlosaHealth.org/PrEP
for more information and resources about PrEP**

References:

(1) Grant RM, Lama JR, Anderson PL, et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. *N Engl J Med*. 2010;363(27):2587-2599. (2) Baeten JM, Donnell D, Ndase P, et al. Antiretroviral prophylaxis for HIV prevention in heterosexual men and women. *N Engl J Med*. 2012;367(5):399-410. (3) Bush S et al. ASM/ICAAC 2016; Boston MA. #2651. http://www.natap.org/2016/HIV/062216_02.htm. Accessed January 17 2017. (4) Smith DK, Van Handel M, Wolitski RJ, et al. Vital Signs: Estimated Percentages and Numbers of Adults with Indications for Preexposure Prophylaxis to Prevent HIV Acquisition—United States, 2015. *MMWR Morb Mortal Wkly Rep*. 2015;64(46):1291-1295. (5) Centers for Disease Control and Prevention. Daily pill can prevent HIV. December 2015 ed: CDC Vital Signs. (6) Centers for Disease Control and Prevention. *Preexposure prophylaxis for the prevention of HIV infection in the United States*. Centers for Disease Control; May 2014. (7) Vernazza PL, Graf I, Sonnenberg-Schwan U, Geit M, Meurer A. Preexposure prophylaxis and timed intercourse for HIV-discordant couples willing to conceive a child. *AIDS*. 2011;25(16):2005-2008. (8) Lexi-Comp, Inc. Accessed January 24, 2017. (9) Gandhi M, Glidden DV, Mayer K, et al. Association of age, baseline kidney function, and medication exposure with declines in creatinine clearance on pre-exposure prophylaxis: an observational cohort study. *Lancet HIV*. 2016;3(11):e521-e528. (10) Mulligan K, Glidden DV, Anderson PL, et al. Effects of Emtricitabine/Tenofovir on Bone Mineral Density in HIV-Negative Persons in a Randomized, Double-Blind, Placebo-Controlled Trial. *Clin Infect Dis*. 2015;61(4):572-580. (11) Salim KSA. The potential and challenges of ARV-based HIV prevention: an overview. AIDS2014; 2014; Melbourne, Australia. (12) Knox DC et al. HIV-1 infection with multiclass resistance despite PrEP. Conference on Retroviruses and Opportunistic Infections (Boston). 2016;abstract number:169aLB.

About this publication

These are general recommendations only; specific clinical decisions should be made by the treating physician based on an individual patient's clinical condition. More detailed information on this topic is provided in a longer evidence document at AlosaHealth.org.



This material is provided by **Alosa Health**, a nonprofit organization which is not affiliated with any pharmaceutical company.

This material was produced by Jing Luo, M.D., M.P.H., Instructor in Medicine, Harvard Medical School; Eileen Scully, M.D., Ph.D., Assistant Professor of Medicine, Johns Hopkins University School of Medicine; Niteesh K. Choudhry, M.D., Ph.D., Professor of Medicine (principal editor); Michael A. Fischer, M.D., M.S., Associate Professor of Medicine; Jerry Avorn, M.D., Professor of Medicine, all at Harvard Medical School; and Ellen Dancel, PharmD, MPH, Director of Clinical Material Development, Alosa Health. Drs. Avorn, Choudhry, Fischer, and Luo are physicians at the Brigham and Women's Hospital in Boston, MA and Dr. Scully practices at John Hopkins Hospital in Baltimore, MD. None of the authors accepts any personal compensation from any drug company.

Medical writer: Stephen Braun.

